## **EAST Search History**

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	3	US-6617706-\$.DID. OR US-6121719-\$. DID. OR US-6095124-\$.DID.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/08/29 08:53
L2	7	(jp-4209968-\$.did. or jp-57109279-\$. did. or jp-260081-\$.did. or jp-2000223239-\$.did. or jp-11154584-\$.did. or jp-11135229-\$. did.)	FPRS; EPO; JPO; DERWENT	OR .	OFF	2006/08/29 08:51
L3	3	1 and diameter	US-PGPUB; USPAT; USOCR	OR	OFF	2006/08/29 08:41
L4	2	1 and diameter and "central electrode"	US-PGPUB; USPAT; USOCR	OR	OFF	2006/08/29 09:36
L5	0	2 and diameter	US-PGPUB; USPAT; USOCR	OR	OFF	2006/08/29 08:51
L6	1	"5514929".pn.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/08/29 08:54
L7	1	6 and diameter	US-PGPUB; USPAT; USOCR	OR	OFF	2006/08/29 08:55
L8	1	1 and diameter and "central electrode" and (energy or power or mj)	US-PGPUB; USPAT; USOCR	OR	OFF	2006/08/29 09:38
L9	1	1 and diameter and "central electrode" and (energy or power or mj or joule)	US-PGPUB; USPAT; USOCR	OR	OFF	2006/08/29 09:40
L10	2	1 and diameter and "central electrode" and ((ignition with energy) or power or mj or joule or W or watts)	US-PGPUB; USPAT; USOCR	OR	OFF	2006/08/29 09:40
S1	5	(("4109633") or ("6407487") or ("6346766") or ("5898257") or ("5461275")).PN.	USPAT; USOCR	OR	OFF	2006/03/16 05:48
S2	5	S1 and gap and (diameter or length) and electrode\$1	USPAT	OR	OFF	2004/12/24 08:44
S3	5	S1 and gap and (protrusion or length) and (electrode\$1 or plug or mm )	USPAT	OR	OFF	2004/12/24 08:52
S4	787	123/169el,169ea,169r.ccls.	USPAT	OR	OFF	2005/10/07 11:04
S5	60	S4 and electrode\$1 and (gap or protrusion or length) and mm	USPAT	OR	OFF	2004/12/24 09:10
S6	44	S4 and electrode\$1 and (gap or clearance) and (protrusion or length) and mm	USPAT	OR	OFF	2004/12/24 09:11

## **EAST Search History**

	1			,	r	
S7	22	S4 and electrode\$1 and ((gap or clearance) and (protrusion or length) )with mm	USPAT	OR	OFF	2004/12/24 11:55
S8	23	S4 and electrode\$1 and ((gap or clearance) and (protrusion or projection or length) )with mm	USPAT	OR	OFF	2004/12/24 09:22
S9	73	313/141.ccls. and electrode\$1 and ((gap or clearance) and (protrusion or projection or length) )with mm	USPAT	OR	OFF	2005/11/08 12:17
S10	63	313/141.ccls. and electrode\$1 and ((gap or clearance) and (protrusion or projection or tip ))with mm	USPAT	OR	OFF	2004/12/24 10:08
S11	106	313/141.ccls. and electrode\$1 and (gap or clearance) and length with mm	USPAT	OR	OFF	2004/12/24 10:09
S12	68	313/141.ccls. and electrode\$1 and ((gap or clearance) and length) with mm	USPAT	OR	OFF	2004/12/24 10:22
S13	2	313/141.ccls. and electrode\$1 and ((gap or clearance) and "both" with (protrusion or length)) with mm	USPAT	OR	OFF	2004/12/24 10:25
S14	70	313/141.ccls. and electrode\$1 and ((gap or clearance) and (protrusion or length)) with mm	USPAT	OR	OFF	2004/12/24 10:25
S15	558	313/144.ccls.	USPAT	OR	OFF	2005/10/07 11:04
S16	14	S15 and S14	USPAT	OR	OFF	2004/12/24 11:54
S17	487	S15 not S4	USPAT	OR	OFF	2004/12/24 11:54
S18	475	S17 not S14	USPAT	OR	OFF	2004/12/24 11:55
S19	324	engine and electrode\$1 and ((gap or clearance) and (protrusion or tip or length) )with mm	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2004/12/28 08:28
S20	445	(Miwa or Yoshinaga or Kanao).inv. and electrode\$1	USPAT	OR	OFF	2004/12/24 11:56
S21	64	S20 and (spark or plug or ignition)	USPAT	OR	OFF	2004/12/24 11:57
S22	1607	123/169el,169ea,169r;313/141.ccls.	USPAT	OR	OFF	2005/11/08 12:17
S23	6	S22 and electrode and base with taper\$3.clm.	USPAT	OR	OFF	2005/10/07 11:09
S24	5	S22 and electrode and base with taper\$3.clm. and diameter	USPAT	OR	OFF	2005/10/07 11:09
S25	365	electrode and base with taper\$3.clm.	US-PGPUB; USPAT	OR	OFF	2005/10/07 11:24
S26	90	electrode and base with taper\$3.clm.	US-PGPUB	OR	OFF	2005/10/07 11:24

## **EAST Search History**

S27	6	S26 and spark	US-PGPUB	OR	OFF	2005/10/07 11:25
S28	2484	123/169el,169ea,169r,634, 594;313/141,144.ccls.	USPAT	OR	OFF	2005/11/08 12:18
S29	21	S28 and "mJ"	USPAT	OR	OFF	2005/11/08 12:35
S30	5	S29 and coil with diameter	USPAT	OR	OFF	2005/11/08 12:37
S31	4	S29 and coil with diameter and engine	USPAT	OR	OFF	2005/11/08 12:37
S32	1	"4109633".pn.	US-PGPUB; USPAT	OR	OFF	2006/03/16 06:39
S33	85	(miwa or yoshinaga or kanao).inv. and electrode\$1 and ignition	US-PGPUB; USPAT	OR	OFF	2006/03/16 07:41
S34	49	S33 and center adj electrode	US-PGPUB; USPAT	OR	OFF	2006/03/16 07:41
S35	11	S34 and earth adj electrode	US-PGPUB; USPAT	OR	OFF	2006/03/16 07:42
S36	1	((center and earth)adj electrode\$1 and diameter and energy).clm.	US-PGPUB; USPAT	OR	OFF	2006/03/16 07:43